When movements are exchanged, the metal property tag must be removed with the movement and returned with same. When a new movement is installed, there must be a new property tag bearing same number as new movement. Managers and Inspectors should immediately report such changes to their immediate superior so that records can be properly corrected.

When exchanging movements do not remove old bracket from clock case as this movement will also fit the old style bracket. Fasten style "F" movements to old style brackets with three screws only, and omit the brass clamp such as is used on the new style bracket for "F" movements.

When ordering material for these movements, always mention style "F", specify beat of movement, size of dial and order by number as indicated in booklet entitled: "Schedule of Parts Style 'F' Minute and Style 'F' (H-Seconds) Synchronized Movements".

Directions for Packing Clocks for Shipment

Never put the battery inside of the clock, but wrap it up in paper and excelsior, and pack it in the box at the head of the clock. Block down the pendulum ball as when received.

Never leave the pendulum in the clock loose. If the blocks are lost, then take the pendulum out of the clock, wrap it in abundance of paper and slip it in beside the case.

Put a little straw or excelsior in the bottom of packing case before putting the clock in, then crowd in wads of paper and excelsior at the four corners.

Remove broken glass, if any, and put loose ornaments and keys inside the packing case.

Place strips at top and bottom of the door, to hold the clock in packing case, nailing through the sides of the packing case into the ends of the strips. Place thick pads of paper and excelsior under the strips, at the edge of the clock; press strips down while nailing in, so the door cannot open.

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- INSTRUCTIONS -

FOR INSTALLATION AND MAINTENANCE OF SELF-WINDING SYNCHRONIZED CLOCKS

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Clock Stopped

When clocks are found stopped it is of the utmost importance to locate the cause of the trouble. To do this, test as follows:

First: Set pendulum swinging to see if hands move; if not, see if dial is warped so as to touch hands.
Second: Turn hands to see if they bind in any way.
Third: If hands are free and yet do not move when pendulum swings, wind the clock by contact key.
Fourth: If clock winds slowly in this way, the battery is weak and the clock is run down.
Fifth: If clock winds rapidly, it shows that the trouble is caused by the center winding contact or motor brushes being out of adjustment.
Sixth: Take off hands and dial and examine all the parts closely.
Seventh: Touch contact key in case a number of times to see if the motor starts from every point.
Eighth: Take off front pallet arbor button, hold the escape wheel and raise pallet, then let the clock run down slowly until it makes on the center contact. This will show whether that part is right.
Ninth: If the fault is found and cannot be easily and surely corrected, take the movement out and make a thorough job of it.

Cleaning and Oiling

At stated times - say once in eighteen months or two years - all clocks should be thoroughly cleaned and oiled, and at the same time inspected to be sure they are in good order.

Never let the clock run down backwards as the arm A will be carried back against the brush B and bend it out of adjustment.

To clean the movement take it from the case, take out the anchor and allow it to run down gently so as not to break the pins, then remove the motor. Take off front plate and separate all the parts. Wash the plates and all parts in good quality of benzine, letting them dry before assembling. The motor must not be taken apart, but may be washed in benzine using a small brush freely about the bearings, commutator and brushes. Put oil in all the pivot holes, but not so much that it will run. The motor bearings and the pallets of the anchor should also be oiled.

Inspect carefully to see that the center winding contact is right, and the motor without dead points. Dust out the case and put the movement in place. Before putting on the dial try the winding to be sure that is right, also see that the disc on cannon socket is in the right position to open the latch at the hour, and after the dial and hands are on move the minute hand forward past the hour and then backward gently until it is stopped by the latch. This will prove that the hand is on the square correctly.

Remounting Clock Hands

To determine if the minute hand is on the proper square of the cannon socket, slightly turn minute hand forward until it passes the even hour approximately 1½ to 2 minutes, when a slight sound should be noted, which is an indication that the latch has dropped off the latch pin on the cannon socket disc and locks the synchronizing lever until 2 minutes before the even hour. In this position the hand is placed correctly. If however, this sound occurs on any other quarter hour, carefully remove center nut by holding on to minute hand, then remove minute hand being sure not to change the position of the cannon socket. Replace the minute hand on the cannon socket. In this position the hand will point to the even hour. Be sure that the minute hand is pressed down slightly below face of the cannon socket and replace center arbor nut. Next see that the hour hand is pushed down slightly below the top of the hour wheel sleeve. When moving hour hand back and forth, there should be at least 1/64" clearance between back of minute hand socket and top of hour wheel sleeve. Test hands to see that neither hour nor minute hand touches the dial and that the hour hand does not touch the back of the minute hand.

Dials Warped

Dials, being made of zinc, warp if exposed to great heat. If they cannot be straightened a new one must be put in.

Hands Bent

When the hands are put on they must be carefully inspected, especially the hour. See that it is perfectly free and does not catch on the minute or second hands as it passes them.

Regulating

60 Beat Pendulum with 10 lb. Brass Bob and Wood Rod

One turn of regulating nut changes rate 40 seconds in 24 hours either fast or slow. If clock is equipped with front regulating bracket, one turn of regulating rod changes rate 20 seconds in 24 hours either fast or slow.

60 Beat - 15 lb. Mercurial Compensated Pendulum

One turn of regulating nut changes rate 30 seconds in 24 hours either fast or slow. Two divisions of indexed nut changes rate 1 second in 24 hours either fast or slow. If equipped with front regulating bracket one turn of regulating rod changes rate 15 seconds in 24 hours either fast or slow.

80 Beat Pendulum with 2 lb. Brass Bob and Wood Rod

One turn of regulating nut changes rate 55 seconds in 24 hours either fast or slow.

120 Beat Pendulum with 2 lb. Brass Bob and Wood Rod

One turn of regulating nut changes rate 1 minute and 50 seconds in 24 hours either fast or slow. If equipped with front or top regulating bracket, one turn of regulating rod changes rate 1 minute and 10 seconds in 24 hours either fast or slow.

140 Beat Pendulum with 2 lb. Brass Bob and Wood Rod

One turn of regulating nut changes rate 2 minutes and 20 seconds in 24 hours either fast or slow. If equipped with front or top regulating bracket, one turn of regulating rod will change rate 2 minutes in 24 hours either fast or slow.

140 Beat Pendulum with Small 10 oz. Nickel Finished Bob and Wood Rod

One turn of regulating nut changes rate 2 minutes in 24 hours either fast or slow. If equipped with front or top regulating bracket, one turn of regulating rod will change rate 2 minutes and 10 seconds in 24 hours either fast or slow.

Fast: If clock gains time turn regulating nut to the left.

Slow: If clock loses time turn regulating nut to the right.

Any subdivision of a complete turn of the regulating nut will affect the rate in proportion to the above schedule.

Circuits

The clock circuits should be clearly defined on a map or by streets from point to point, so that inspectors and linemen may be thoroughly familiar with each circuit, and know all danger points where line troubles may occur.

There should be a bell in the office, connected in the synchronizing line as an audible signal showing when the line is in working order.

Exchanging Movements

It is of utmost importance that numbers on metal property tags in clock cases should correspond with numbers of clock movements.